DOE/RL-88-21
216-B-3 Main Pond
Rev. 6, 3/30/00

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 character/inch) .

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	I. EPA/STATE I.D. NUMBER
		W A 7 8 9 0 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED *(mo., day, & yr.)*	COMMENTS
		Pending Approval

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete Item below.)*

MO.	DAY	YEAR
03	22	1943

**FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)*

**The date construction of the Hanford Facility commenced.*

☐ 2. NEW FACILITY *(Complete item below)*

MO.	DAY	YEAR

FOR NEW FACILITIES, PROVIDE THE DATE, *(mo., day, & yr.)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Section I above)*

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT ☒ 2. FACILITY HAS A FINAL PERMIT

III. PROCESS - CODES AND CAPACITIES

A. *PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).*

B. *PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.*

1. *AMOUNT - Enter the amount.*

2. *UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.*

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D80	GALLONS OR LITERS
LANDFILL	D81	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D82	ACRES OR HECTARES
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

	A. PROCESS	B. PROCESS DESIGN CAPACITY	

LINE NUMBER	CODE *(from list above)*	1. AMOUNT *(specify)*	2. UNIT OF MEASURE *(enter code)*	FOR OFFICIAL USE ONLY			
X-1	*S02*	*600*	*G*				
X-2	*T03*	*20*	*E*				
1	T02	840,000	U				
2	D84	840,000	G				
3							
4							
5							
6							
7							
8							
9							
10							

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T02, D84

The 216-B-3 Main Pond (Main Pond) was used from 4/1945 to 5/1992. The 216-B-3 Main Pond consists of the 216-B-3 Pond and 216-B-3-3 Ditch. The 216-B-3 Pond, which began service in 1945, currently covers an area of 14 hectares (35 acres) to a depth of .71 to 2.4 meters (2 to 8 feet). The 216-B-3 Pond received effluent from the 216-B-3-3 Ditch, which was excavated in 1970 to replace an earlier ditch. The 216-B-3-3 Ditch is approximately 1.128 meters (3,700 feet) long, 9.1 meters (30 feet) wide at ground level, 1.8 meters (6 feet) wide at the bottom, and 1.2 to 2.4 meters (4 to 8 feet) deep. The 216-B-3-3 Ditch received most of its dangerous waste from the 216 -A-29 Ditch, which drained the Plutonium Uranium Extraction (PUREX) Plant chemical sewer line. The 216-A-29 Ditch discharged to the 216-B-3-3 Ditch approximately 460 meters (1,500 feet) west of the 216 -B-3 Pond. The 216-A-29 Ditch was shut down and interim stabilized in July 1991.

The Main Pond receives waste water (primarily process and colling water) from the PUREX Plant, the B Plant Complex, the 242-A Evaporator, and other 200 East Area units. The Main Pond received corrosive waste as a result of the regeneration of PUREX Plant demineralizer columns (D84). Treatment of the waste occurred by the successive discharge of acidic and caustic waste, which served to neutralize the corrosivity of the waste before and upon reaching the Main Pond. Residual corrosivity was neutralized by the calcareous nature of the Main Pond soil (T02).

The process design capacities given for waste process codes T02 [3,180,000 liters (840,000 gallons) per day] and D84 [3,180,000 liters (840,000 gallons) per day] represent Main Pond's proportional share (based on percolation capacity) of the process design capacity of the entire B Pond System (which includes the 216-B-3 Expansion Ponds, a separate dangerous waste treatment and disposal unit). At the peak of operations, approximately 83,280,000 liters(22,000,000 gallons) per day of liquid were discharged to the entire 216-B-3 Pond System. Interim stabalization of the 216-B-3 Main Pond began in February 1994. The 216-B-3 Main Pond has been permanently isolated from all liquid effluent sources and will be closed under interim status.

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measuer which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.

3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESSES				
				1. PROCESS CODES *(enter)*				2. PROCESS DESCRIPTION *(if a code is not entered in D(1))*
X-1	*K054*	*900*	*P*	*T03*	*D80*			
X-2	*D002*	*400*	*P*	*T03*	*D80*			
X-3	*D001*	*100*	*P*	*T03*	*D80*			
X-4	*D002*			*T03*	*D80*			*included with above*
1	D002	3,500,000	P	T02	D84			Neutralization/Percolation
2	WT02	77,000	P	T02	D84			Included with Above
3	U133	77,000	P	T02	D84			Neutralization/Percolation
4	WT01	19,000	P	T02	D84			Neutralization/Percolation
5	D006	169,000	P	T02	D84			Included with Above
6								
7								
8								
9								
10								

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The Main Pond received dangerous waste from two primary sources: (1) corrosive and toxic dangerous waste resulting from the regeneration of

demineralizer columns at the PUREX Plant, and (2) spills of dangerous or mixed waste at the PUREX Plant. Backwash from the regeneration of the demineralizer columns was frequently corrosive (D002) and sometimes contained toxic concentrations of chemicals used in the regeneration process, including nitric acid, sulfuric acid. sodium hydroxide, and potassium hydroxide (WT02). Spills at the PUREX Plant included hydrazine (U133), cadmium nitrate (WT01/D006), and ammonium fluoride/ammonium nitrate (WT01). Since 1984, administrative and engineering barriers have been put in place at the PUREX Plant to prevent dangerous waste from being discharged into the Main Pond.

The quantity of waste listed for D002/WT02 is an estimated annual quantity based on the Main Pond's proportional share (based on percolation capacity) of the amount of corrosive and toxic waste received by the entire 216-B-3 Pond System (which includes the 216-B-3 Expansion Ponds, a separate dangerous waste treatment and disposal unit). The quantities of waste listed for U133 and WT01/D006 represent the Main Pond's proportional share (based on percolation capacity) of the total recorded amount of hydrazine, cadmium, and ammonium fluoride/ammonium nitrate received by the entire 216-B-3 Pond System from the time the PUREX Plant resumed operations in 1983 until the last known chemical discharge in 1987.

The quantities of waste listed for U133 and WT01/D006 include the water in which the chemicals were discharged. Water makes up most of the weight of these discharges.

V. FACILITY DRAWING **Refer to attached drawing(s).**

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS **Refer to attached photograph(s).**

All existing facilities must include photographs *(arial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION **This information is provided on the attached drawing(s) and photograph(s).**

LATITUDE *(degrees, minutes, & seconds)*					LONGITUDE *(degrees, minutes, & seconds)*				

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*		

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME *(print or type)*	SIGNATURE	DATE SIGNED
Keith A. Klein, Manager U.S. Department of Energy Richland Operations Office	Robert M. Rosselli	03/30/2000

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME *(print or type)*	SIGNATURE	DATE SIGNED
SEE ATTACHMENT		

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Robert M. Rosselli
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy
Richland Operations Office

3/30/00
Date

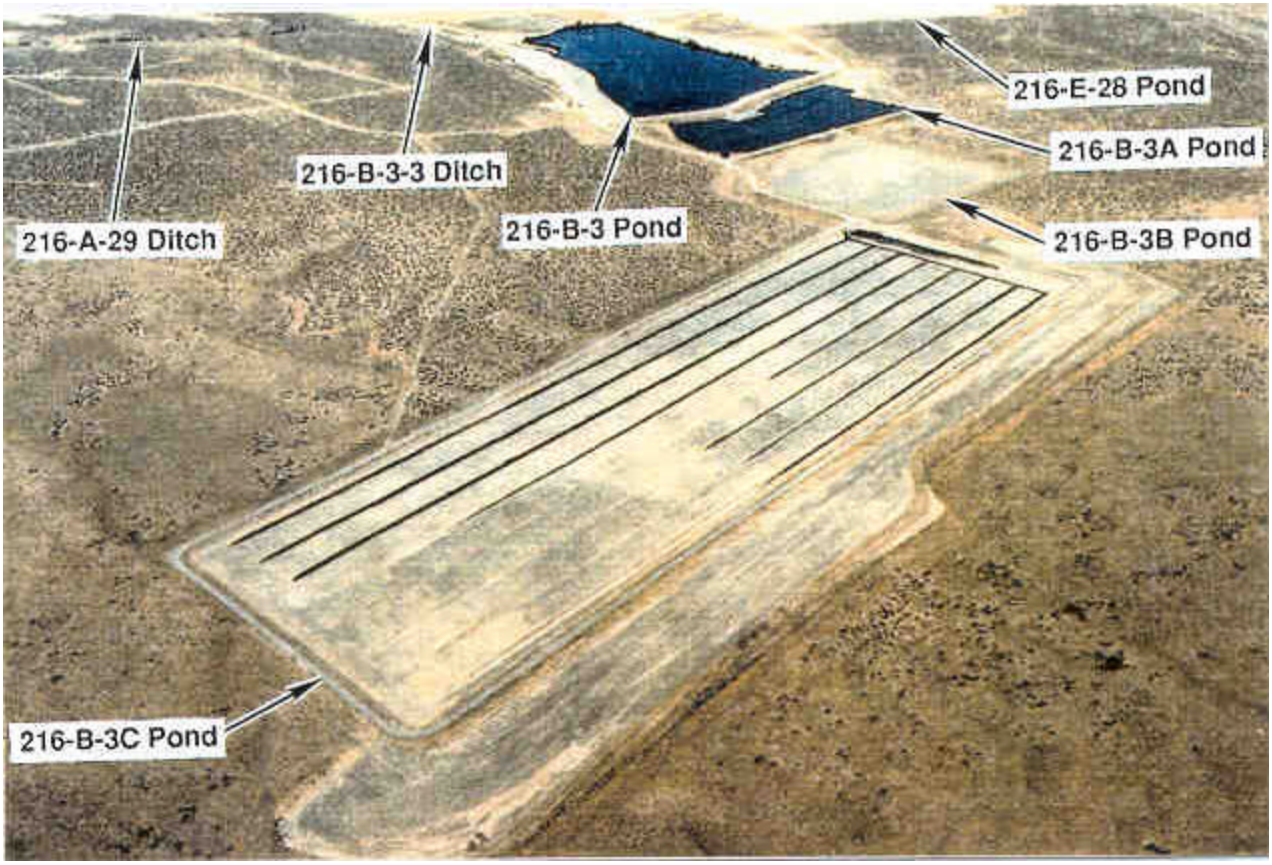
Michael C. Hughes
Co-Operator
Michael C. Hughes, President
Bechtel Hanford, Inc.

3/9/00
Date

216-B-3 Main Pond

699-42-42A

216-B-3 MAIN POND



46°33'38.522"
46°33'23.420"
119°30'16.016"
119°29'32.703"

93110825-1CN
(PHOTO TAKEN 1993)